REMARKS

Claims 9, 10, 16, 17, 19, and 21-25 are now presented for examination. Claims 18 and 20 have been canceled without prejudice. Claims 9, 16, 19, 21, and 22 have been amended. Claims 16 and 22 are independent.

Reconsideration and withdrawal of the outstanding rejections are respectfully solicited in view of the foregoing amendments and the following remarks.

Claims 9, 10, 16-18, 21, 22, 24 and 25 have been rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent Publication 2002/0015139 (Hara). Claims 19 and 20 have been rejected under 35 U.S.C. § 103(a) as unpatentable over Hara in view of U.S. Patent Publication 2001/0001248 (Emoto). Claim 23 has been rejected under 35 U.S.C. § 103(a) as unpatentable over Hara.

In response, while not conceding the propriety of the rejections, independent Claims 16 and 22 have been amended. Applicants submit that as amended, these claims are allowable for the following reasons.

Independent Claim 16 relates to a stage apparatus comprising a base plate, a moving unit movable along a surface of the base plate, a linear motor which drives the moving unit and includes a coil unit in the moving unit, a gas bearing which supports the moving unit on the base plate, and a cooling unit.

Claim 16 has been amended to recite that the cooling unit includes a cooling pipe provided in the moving unit through which a coolant flows to cool the coil unit. Claim 16 has also been amended to recite that the cooling pipe provides coolant flow that cools a gas used by

the gas bearing. Claim 16 has been further amended to recite that the gas bearing has a supply pipe through which the gas flows, wherein at least a portion of the supply pipe is disposed adjacent to or is surrounded by the cooling pipe.

Claim 22 relates to a stage apparatus comprising a base plate, a first moving unit movable along a surface of the base plate, a linear motor which drives the first moving unit and includes a coil unit in the first moving unit, a second moving unit which moves with respect to the first moving unit, and a cooling unit.

Claim 22 has been amended to recite that the cooling unit includes a cooling pipe disposed between the first and second moving units, wherein a coolant flow through the cooling pipe absorbs a heat transmission from the coil unit to the second moving unit.

In contrast, the publications to Hara and Emoto are not understood to disclose or suggest a cooling unit which includes a cooling pipe provided in a moving unit through which a coolant flows to cool a coil unit in the moving unit and providing coolant flow that cools a gas used by a gas bearing, which supports the moving unit and has a supply pipe through which the gas flows, at least a portion of which is disposed adjacent to or is surrounded by the cooling pipe, as recited by amended Claim 16. In addition, these publications are not understood to disclose or suggest a cooling unit that includes a cooling pipe disposed between first and second moving units, where a coolant flow through the cooling pipe absorbs a heat transmission from a coil unit, in the first moving unit, to the second moving unit, as recited by amended Claim 22.

Rather, the Hara publication is understood to merely teach fluid flow in the stationary part of a stage apparatus. For example paragraph [0044] of Hara is understood to disclose that a fluid

29 from a temperature controller 6 flows through a jacket 22 surrounding coils 21, which are included in a stationary member 2A of the linear motor 8A. In addition, paragraph [0076], for example, is understood to merely teach that the stage apparatus is placed in an air conditioned environment, as can be seen by this excerpt therefrom: "That is, in the stage apparatus according to this embodiment, the whole stage apparatus is placed in an air-conditioned environment to maintain at a constant temperature the temperatures at the optical paths of the laser beams 76A and 77A emitted from the laser interferometers 76 and 77 in particular, and thus air for overall air conditioning is supplied toward the stage apparatus from behind the X-coordinate measuring laser interferometer 76 as shown by an environmental air stream 83".

The Office Action cites paragraph [0082] of the Hara publication to show a cooling unit provided in a moving unit. But paragraph [0082] is understood to merely disclose that Y-guide bar transport members 101 and 105 are provided with hydrostatic gas bearings supplied with temperature-controlled air through branch pipes 203A and 203B. There does not appear to be any disclosure in this paragraph of a cooling unit which includes a cooling pipe provided in a moving unit through which a coolant flows to cool a coil unit in the moving unit and providing coolant flow that cools a gas used by a gas bearing, which supports the moving unit and has a supply pipe through which the gas flows, at least a portion of which is disposed adjacent to or is surrounded by the cooling pipe, as recited by amended Claim 16:

> FIG. 5(e) shows the arrangement of a hydrostatic gas bearing provided on each of the bottoms of the Y-guide bar transport members 101 and 105 and the vertical support member 106, which contact the surface plate 61. As shown in FIG. 5(e), the bottom of the Y-guide bar transport member 101 is also provided with a hydrostatic gas bearing similar to that provided on the side

thereof. Air discharged from exhaust grooves 127A, which extend along both ends in the direction Y of the bottom of the Y-guide bar transport member 101, is also discharged in the direction +X from discharge openings 128A and 128B provided on the bottom of the Y-guide bar transport member 101 as in the case of air discharged from the side thereof as shown in FIG. 6. It should be noted that the hydrostatic gas bearing on the bottom is supplied with temperature-controlled air through the branch pipes 203A and 203B as in the case of the hydrostatic gas bearing on the side.

The Office Action also cites paragraph [0081] to show a cooling unit disposed between first and second moving units. But this paragraph is understood to merely disclose that temperature-compressed air flows through two branch pipes 203A and 203B, (which are shown in Figure 6 as flowing to the Y-guide bar transport member 101). There does not appear to be any disclosure in this paragraph of a cooling unit that includes a cooling pipe disposed between first and second moving units, where a coolant flow through the cooling pipe absorbs a heat transmission from a coil unit, in the first moving unit, to the second moving unit, as recited by amended Claim 22:

> Compressed air from a compressed gas source 201, which is a compressor installed outside the stage apparatus, is supplied via a centralized piping 203 and two branch pipes 203A and 203B branched from the centralized piping 203 and blown out from the air outlet openings 123A and 123B in the gas outlet portions 102A and 102B. A temperature controller 202 for controlling the temperature of compressed air is installed in the centralized piping 203. Thus, the temperature controller 202 controls the temperature of air pressurized in the compressed gas source 201. An electric output type temperature sensor 205 is provided at the discharge opening 125A to measure the temperature of discharged air. The value of temperature measured by the temperature sensor 205 is supplied to the temperature controller 202.

Further, the publication to Emoto is understood to merely relate to a conventional driving system having a driving mechanism, a drive controlling device controlling the driving mechanism, and a temperature adjusting mechanism that collects heat from the driving mechanism and controls the cooling amount on the basis of a signal applied from the drive controlling device to the driving mechanism. This publication is not understood to disclose or suggest a cooling pipe provided in a moving unit through which a coolant flows to cool the moving unit's coil and providing coolant flow that cools a gas used by a gas bearing, which supports the moving unit and has a supply pipe through which the gas flows, at least a portion of which is disposed adjacent to or is surrounded by the cooling pipe, as recited by amended Claim 16, or a cooling pipe disposed between first and second moving units, where a coolant flow through the cooling pipe absorbs a heat transmission from a coil unit, in the first moving unit, to the second moving unit, as recited by amended Claim 22.

Since amended independent Claims 16 and 22 are understood to recite features not disclosed or suggested by the publications to Hara and Emoto, Applicants submit that the Office has not yet satisfied its burden of proof to establish the anticipation or the obviousness of these claims over the Hara and Emoto publications under MPEP § 2131 and § 2142. Therefore, Applicants respectfully request that the rejection of Claims 16 and 22 be withdrawn.

The dependent claims are allowable for the reasons given for the independent claims and because they recite features that are patentable in their own right. Individual consideration of the dependent claims is respectfully solicited.

In view of the foregoing amendments and remarks, the application is now in allowable form. Therefore, early passage to issue of the present application is respectfully solicited.

Applicants' attorney, Steven E. Warner, may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should be directed to our address listed below.

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